UNITED STATES DISTRICT COURT
SOUTHERN NORTHERN DISTRICT OF CALIFORNIA

CASE NO.: 18-cv-07354

Alicia Hernandez, individually and on behalf of all others similarly situated,

Plaintiff,

vs.

Wells Fargo Bank, N.A.

Defendant,
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DECLARATION OF JOHN A. KILPATRICK, PH.D., MAI, FRICS

I, John A. Kilpatrick, declare as follows:

1. I am the Managing Director of Greenfield Advisors, Inc., a consulting firm specializing in real estate valuation and financial and economic analysis, headquartered in Seattle, Washington. For more than 40 years, our firm has been a leading authority on difficult real estate related problems. We are unusual, if not unique, in the high level of educational and professional qualifications of our staff and consultants (including, from time to time, numerous Ph.D.'s in real estate and related fields); the rigor of our quantitative techniques, and our scholarly pursuits in the field, as evidenced by numerous books, chapters, and refereed journal articles produced over the years by members and associates of Greenfield.

2. I am an MAI-designated member of the Appraisal Institute and the author, editor, or contributing author to ten books, such as *Private Real Estate Markets and Investments* (Oxford University Press, 2014) and *Real Estate Valuation and Strategy* (McGraw-Hill, forthcoming 2020). I have served as a consultant to the Federal Housing Finance Authority, in its role as conservator to Fannie-Mae and Freddie Mac, in its recent litigation concerning the mortgage market crisis, as well as numerous corporations and trusts, Federal and state agencies, and private individuals. I am a former member of the Editorial Board of the *Appraisal Journal*,

the official refereed journal of the Appraisal Institute, and continue to serve on its review board, and serve as a reviewer for numerous other scholarly and professional journals. I am also a past co-editor of the *Journal of Sustainable Real Estate.* In 2004, I became one of a handful of appraisers in the United States to be designated as a nationally certified appraisal standards instructor by the Appraisal Standards Board in Washington, D.C. Also, in 2004, my peers in the industry honored me by nominating me for a seat on the Appraisal Qualifications Board and by naming me a "Member" (later "Fellow") of the Faculty of Valuation of the British Royal Institution of Chartered Surveyors. I am a Fellow of the American Real Estate Society, a Principal Member of the Real Estate Counseling Group of America, and I have been professionally engaged in real estate finance, appraisal, development and teaching for over 35 years. In March of 2017, Washington's Governor Jay Inslee appointed me to represent the citizens of Western Washington as a Director of the Washington State Economic Development Finance Authority. I have been accepted as an expert witness in various Federal and state courts throughout the United States on matters relating to real estate valuation, financial and economic analysis, and statistical analysis. A more complete and current set of my professional qualifications, along with a list of my trial and deposition testimony for the past four years is attached to this declaration as Exhibit A.

3. I am the author of over 100 journal articles, monographs, and working papers. For example, my paper "Appraisal Error Terms and Confidence Intervals", presented at the American Real Estate Society's 2010 annual meeting, was named the Best Paper on Real Estate Appraisal, an award sponsored by the Appraisal Institute[1]. I have been featured in articles in the *New York Times*, CNBC, the *Wall Street Journal*, the British journal *Modus*, and other national and global publications. Most recently, I was awarded the Bernard L. Barnard Outstanding Technical Essay Award by the International Association of Assessing Officers for an article published in the *Journal of Real Estate Literature*[2] that relates to mass appraisal techniques, such as the ones I would propose to utilize in this case. Also, recently, a paper I co-authored on complex real estate models, published in the *Journal of Property Investment and Finance,* was

[1] John A. Kilpatrick, *What is the Error Rate of a Commercial Appraisal?* In 2010 ANNUAL MEETINGS OF THE AMERICAN REAL ESTATE SOCIETY (2010)

[2] Clifford A. Lipscomb, Abigail S. Mooney, & John A. Kilpatrick, *Do Survey Results Systematically Differ from Hedonic Regression Results? Evidence from a Residential Meta-Analysis*, 21 JOURNAL OF REAL ESTATE LITERATURE 233-253.

named a "Highly Commended Award Winner" by the Emerald Publishing Literati Network Awards for Excellence.[3]

4. I have testified or consulted on numerous real estate problem situations, including situations with respect to diminution in value, foreclosure issues, mass appraisal methods, and automated valuation models (AVMs) in Federal and state court cases. Examples include, but are not limited to, the following:

- 2017, Eastern District of Washington, in *Jordan v. Nationstar*, I was offered as an expert witness in a case involving foreclosed residences and my model withstood *motions in limine*. The case subsequently settled.
- 2017, District of Massachusetts, in *Massachusetts Mutual v. Credit Suisse*, my mass appraisal model and AVM withstood a *motion in limine,* and the matter subsequently settled.
- 2017, District of Connecticut, I was offered as an expert witness in *FHFA v. RBS*, a case involving failed mortgage backed securities and foreclosed real estate. My mass appraisal model and AVM withstood a *motion in limine*, and the matter subsequently settled.
- 2017, Circuit Court of Cook County, Il, I was offered as an expert on real estate valuation in *Federal Home Loan Bank of Chicago v. Banc of America Funding Corporation, et al.* After a vigorous review of my AVM and analytical methods, the case subsequently settled.
- 2017, U.S. Court of Federal Claims, I consulted and was deposed as an expert on appraisal methodology and appraisal review in *Hardy, et al., v. The United States of America*. The case went to trial and my clients prevailed.
- 2016, District of Massachusetts, I was offered as an expert witness in *Massachusetts Mutual v. DLJ Mortgage Capital.* My mass appraisal model and AVM withstood a *motion in limine*. The matter went to trial, and my clients prevailed.

[3] Andy Krause et al., *Contaminated Properties, Trespass, and Underground Rents,* 30 JOURNAL OF PROPERTY INVESTMENT AND FINANCE 304-320 (2012)

- 2015, Southern District of New York, I testified in *FHFA v. Nomura* utilizing my AVM and other mass appraisal techniques. My models withstood *motions in limine* and my clients prevailed in the matter.
- 2015, Western District of Missouri, I testified in *Barfield, et al., v. Sho-Me Power, et al.* My mass appraisal and financial analyses models withstood *motions in limine*, and my clients prevailed in the matter.

A more complete list of my trial testimony for the last four years is included in Exhibit A.

5. For purposes of this declaration, I have been asked to opine on behalf of the plaintiffs in the referenced case (*Hernandez v. Wells Fargo*) on the question of whether or not, from a real estate and financial and economic analysis perspective, the matters at hand in this case can be analyzed systematically and on a class-wide basis.

6. The materials I have relied upon to formulate my opinions are referenced herein.

7. In this matter, my firm is being compensated at the rate of $800 per hour for my time. Others at Greenfield Advisors who work under my direct supervision have hourly rates between $90 and $500 per hour. These are our standard and customary rates for work of this nature.

OPINIONS AND BASES AND REASONS FOR THEM

A. Overview

8. This report represents my professional opinion as an appraiser and financial and economic analyst as to the question of whether or not the matters hand can be analyzed systematically and in a manner consistent with a certified class.

B. Background

9. As one of the ways to mitigate and ameliorate the effects of the recent recession, Congress provided $50 Billion in stimulus funding for the Home Affordable Modification Program, or “HAMP”. This was specifically designed to preserve home ownership by providing stability to citizens who were suffering from the recession and its aftermath. I am informed that

Wells Fargo, the defendant in this matter, received and accepted up to $6.4 Billion in HAMP funding. It is alleged that Wells Fargo failed to fulfill on the obligations which followed from the acceptance of this Federal support.

10. I am informed that Wells Fargo wrongfully denied loan modifications to over 900 borrowers who would have qualified for such a modification under HAMP. Of these borrowers, Wells Fargo apparently now admits to foreclosing on hundreds of these borrowers, who should have been offered a loan modification.

11. These loan modifications would have substantially reduced borrower's monthly payments. According to the U.S. Treasury, the HAMP program, when it was in effect, reduced the median homeowner's payment by $530 per month. HAMP also "…encouraged private lenders to modify mortgages at no expense to taxpayers[4].

12. Plaintiff Alicia Hernandez purchased a condominium in North Bergen, New Jersey. She lost her job during the recession and was, from all indications, the type of homeowner for whom HAMP was designed to help. Instead of providing HAMP assistance, Wells Fargo initiated foreclosure proceedings. Ms. Hernandez fought the foreclosure *pro se* for several years, but to no avail.

13. As part of a voluntary remediation program, Wells Fargo sent Ms. Hernandez a check for $15,000. The letter accompanying the check informed her of Wells Fargo's "faulty calculation" and that, if not for their error, she would have been approved for a HAMP modification.

C. Apparent economic issues to be addressed as a class

14. As an economist, I can see immediately that Ms. Hernandez and similarly situated and affected plaintiffs have been affected in two distinct ways:

- Her home was foreclosed on at exactly the trough of the recession, and since that time homes have increased in value significantly as a "rebound" from that recession. Ms. Hernandez has lost all of the increase in value of her home she would have otherwise enjoyed. These are not speculative or anticipatory profits.

[4] https://www.treasury.gov/initiatives/financial-stability/TARP-Programs/housing/mha/Pages/hamp.aspx, viewed August 23, 2019

Rather, equity is the actual value of the home which was temporarily depressed as a result of the recession; and

- Ms. Hernandez and other similarly situated plaintiffs have measurable additional out-of-pocket costs, such as increased occupancy costs, increased borrowing costs (resulting from loss of credit), moving expenses, personal legal expenses, and other miscellaneous costs.

15. As I will demonstrate, these costs can and should be measured in a systematic fashion across the universe of affected plaintiffs. There are well developed and well accepted methods available for systematically measuring these losses, and we have used such measures in other Federal and state court cases in recent years.

D. Loss of home value

16. It is widely recognized that home values in the 2008-2010 time period were in a depressed trough coincident with the recession. For example, using the Federal Housing Finance Authority's data[5], a home in North Bergen, NJ, purchased for $200,000 at the beginning of 2006, would have fallen in value to $175,503 by the end of 2010. This was the period in question when homes, such as Ms. Hernandez' and others, were eligible for loan modification to aid them in saving their lost equity, but instead their homes were foreclosed. Had Ms. Hernandez been allowed to keep her home until the first quarter of 2019, again using FHFA's data, her home today would have been worth $216,769. The difference between the value at foreclosure (in this example, $175,503) and the value today ($216,769), or $41,266, is the actual loss in equity suffered by a typical homeowner.

17. We have successfully used our Greenfield Automated Valuation Model throughout the United States to retrospectively value individual homes in cases such as this one. Our AVM has consistently been accepted by Courts as a statistically robust and useful tool for informing my appraisal opinions in these cases. I would also note that I am presently a state-certified appraiser in every state in the U.S., and so qualified to offer such retrospective valuation determinations.

[5] https://www.fhfa.gov/DataTools/Tools/Pages/HPI-Calculator.aspx

18. We would use our Greenfield AVM to measure the actual value of each plaintiff residence at the time the mortgage was foreclosed. We can then also measure the actual value of each plaintiff residence as of the time of certification of the class. The differences between each of these pairs of values would be the starting point for determination of a loss of homeownership equity for each of these plaintiffs.

E. Other out-of-pocket losses

19. Quite obviously, the median homeowner would have received a reduction in housing costs of $530 per month as a direct result of participation in HAMP. That, unfortunately, was only the beginning of direct economic losses suffered by each of these homeowners.

F. The obvious preference for using mass evaluation methods

20. It is my opinion (based on my education, training, and experience, as well as evidence throughout this declaration) that considering the loss of value and economic damages to individual plaintiffs and their properties, with reference to the pattern of loss across the proposed class would result in an objective and credible estimate of damages to class members. Using a mass appraisal system, an appraiser can assemble the data needed to identify properties, appropriate valuation data (i.e. – comparables), and render a statistically supported, accurate, consistent, and unbiased determination of value for each residence in question. The administrative costs of valuing the properties and estimating damages would be greatly reduced in a mass appraisal exercise rather than on a property-by-property appraisal utilizing different appraisers and economic experts for each plaintiff in the case.

21. A major factor justifying mass treatment in this case is the need to assemble, analyze, and interpret a large body of data for credible and unbiased assessment and valuation. For example, with reference to the property value portion of this exercise, individual property appraisals use small data sets of comparable sales selected for comparison purposes. By contrast, in a mass appraisal, it is common to use all property sales of like kind. By using the

same set of sales transactions as comparable sales, any bias that may be introduced when choosing comparable sales for a single property can be eliminated.

22. The process of comprehensively gathering, compiling, and geo-referencing data is complex but necessary when simultaneously valuing hundreds of properties either individually or *en masse*. Furthermore, extensive data cleaning and checking processes are required to eliminate errors and omissions that naturally occur in even the best data sets. This quality control process requires time and expertise. Consolidation of claimants into a class allows for consistent methods of valuation and evaluation of economic damages.

23. The mass evaluation process allows for the achievement of significant economies of scale. That is, creating a single database for the entire class is far more efficient and less costly than obtaining the data in a case-by-case, atomistic manner. For the real estate valuation component of this, mass treatment is widely recognized as providing a better and more efficient means of valuation when addressing hundreds of appraisals simultaneously[6].

G. USPAP requirements for mass appraisal

24. USPAP defines mass appraisal as "the process of valuing a universe of properties as of a given date using standard methodology, employing common data, and allowing for statistical testing."[7] In addition, USPAP Standards Rule 5-1 comments: "Mass appraisal provides for a systematic approach and uniform application of appraisal methods and techniques to obtain estimates of value that allow for statistical review and analysis of results." An automated valuation approach also provides a means for ensuring consistency of treatment across a large group of properties.

25. In carrying out a mass appraisal, the appraiser must "employ recognized techniques" for specifying and calibrating property valuation models.[8] USPAP Mass Appraisal Standard 5 recognizes that available information may vary in local circumstances and allows for

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[6] In this document, I refer to mass appraisal, mass analysis, Automated Valuation Models (AVMs), multiple regression models, and statistical analysis. For clarity, mass appraisal is a method approved by the *Uniform Standards of Professional Appraisal Practice* (USPAP) to systematically value a large number of properties simultaneously. Multiple regression models are the most common techniques for accomplishing mass appraisal, and the AVM is one common type of multiple regression model. All of these are statistical analysis tools.

[7] UNIFORM STANDARDS OF PROFESSIONAL APPRAISAL PRACTICE, (2018-2019) at Definitions p. 5.

[8] USPAP, (2018-2019) at Standards Rule 5-4 a, b, and c.

variation in methods due to variations in available data. The comment accompanying Standards Rule 5-5 includes the phrase "where applicable and feasible" regarding systems for collecting and maintaining "ownership, geographic [i.e., location], sales, income and expense, cost, and property characteristics data." The comment to Standards Rule 5-5 also suggests that data collection programs incorporate "a quality control program, including checks and audits of the data to ensure current and consistent records." These requirements support the use of mass appraisal treatment to ensure consistency and quality control with respect to both data and valuation models across the members of the class.

26. USPAP Standards Rule 5-7 mandates "testing procedures and techniques to ensure that standards of accuracy are maintained." The comment appended to Standards Rule 5-7 states that:

> … Appraisers engaged in mass appraisal have a professional responsibility to ensure that, on an overall basis, models produce value conclusions that meet attainable standards of accuracy. This responsibility requires appraisers to evaluate the performance of models, using techniques that may include but are not limited to, goodness-of-fit statistics, and model performance statistics such as appraisal-to-sale ratio studies, evaluation of hold-out samples, or analysis of residuals.

27. In addition to formal tests of mass appraisal performance, I can further ensure quality of the mass evaluation effort by several methods, such as:

- The Greenfield AVM (GAVM), which as I have noted has consistently been accepted by various Courts, uses well-established, peer-reviewed statistical methods, such as log-linear model specification and robust regression.
- The AVM testing process allows for the generation of error statistics, furthering the diagnostic abilities that are appropriate for the Court to determine the appropriate damages on a class-wide basis.

28. In addition to utilizing an analysis team trained in valuation, finance, statistics, and economic analysis, I believe that the process I use for estimating values will result in accuracy, reliability, and consistency across the proposed class. This process will include the following steps:

- Using location coordinates for each property will allow the GAVM to incorporate location factors, pricing of neighboring or locationally similar properties, and

neighborhood submarket information into price estimates. Research (e.g., Pace and Zou, 2002; Fotheringham et al. 2002; Lipscomb and Farmer, 2005; Lipscomb, 2006; Farmer and Lipscomb, 2010; Ross et al., 2011; Belasco et al. 2012)[9] has shown that spatial models can outperform models that do not incorporate location.

- Conducing limited data sampling and verification under careful supervision to ensure accuracy, consistency, and completeness. USPAP requires that mass appraisal reports must "describe the sources of data and data collection and validation processes."
- Classifying the affected properties into appropriate submarkets by areas and property types and testing candidate price-affecting variables by criteria suggested in USPAP Standards Rule 5-7.
- Locating and analyzing sources of data on property characteristics and values for properties within the proposed class. Data checking and verification will achieve the level of quality control required by USPAP and will exceed IAAO standards for accuracy.

29. Individual property valuation methods typically rely on small samples of comparable sales [e.g., three in the case of the widely used Uniform Residential Appraisal

[9] R. Kelley Pace & Dongya Zou, *Closed-Form Maximum Likelihood Estimates of Nearest Neighbor Spatial Dependence*, 32 GEOGRAPHICAL ANALYSIS 154–172 (2002).
A. STEWART. FOTHERINGHAM, CHRIS BRUNDSON & MARTIN CHARLTON, GEOGRAPHICALLY WEIGHTED REGRESSION: THE ANALYSIS OF SPATIALLY VARYING RELATIONSHIPS (2002).
Clifford A. Lipscomb & Michael C. Farmer, *Household diversity and market segmentation within a single neighborhood*, 39 THE ANNALS OF REGIONAL SCIENCE 791–810 (2005).
Clifford A Lipscomb, *An Alternative Spatial Hedonic Estimation Approach*, 15 JOURNAL OF HOUSING RESEARCH 143–160 (2006).
Michael C Farmer & Clifford A Lipscomb, *Using Quantile Regression to Reveal Hedonic Submarket Competition*, 32 JOURNAL OF REAL ESTATE RESEARCH 435–460 (2010).
Justin M. Ross, Michael C. Farmer & Clifford A. Lipscomb, *Inconsistency in Welfare Inferences from Distance Variables in Hedonic Regressions*, 43 THE JOURNAL OF REAL ESTATE FINANCE AND ECONOMICS385–400 (2011).
E Belasco, Michael C Farmer & Clifford A Lipscomb, *Using a Finite Mixture Model of Heterogeneous Households to Delineate Housing Submarkets*, 34 JOURNAL OF REAL ESTATE RESEARCH 577–594 (2012).

Report (URAR)].[10] Estimates from small samples are subject to random and significant statistical variation (Kilpatrick, 2010).[11]

H. Data sources

30. For projects such as this one, I typically utilize property data from iLeads[12]. I have utilized their data in numerous AVM-related cases over the past several years. It has proven acceptable, and as previously noted, my AVM has never been rejected by a Court in litigation such as this.

31. I utilize two data sets from iLeads for my valuation analysis: recorder (or deed/sales) data and tax assessor data. The data include information on the most recent sale prices and dates for properties across the county, property characteristics (e.g., square footage, bathrooms, age, lot size), and location on a county-by-county basis. My staff and I have examined this data repeatedly, and find it is both comprehensive and representative.

I. Model design and AVM testing

32. As noted, AVMs are computer programs that employ statistical models to ascertain objective and accurate estimates of the market value of real property.[13] The Appraisal Standards Board describes an AVM as "a computer software program that analyzes data using an automated process."[14] AVMs have been used in the industry since the early 1990s to value residential property and, when properly designed, validated, and applied, AVMs can provide a statistically accurate measure of property value when sufficient reference data are available.[15] The Appraisal Standards Board recognizes AVMs, when used competently by a trained and

[10] A standard form for reporting the appraisal of a dwelling; required by the major secondary mortgage purchasers. Also known as Form 1004.
[11] John A. Kilpatrick, *Appraisal Error Terms and Confidence Intervals*, PRESENTED AT THE 2010 ANNUAL MEETING OF THE AMERICAN REAL ESTATE SOCIETY. Note: This paper won the 2010 award for Best Paper in Real Estate Appraisal from the Appraisal Institute.
[12] https://ileads.com/
[13] USPAP, (2018-2019) at p. 101 (Advisory Opinion 18).
[14] Ibid.
[15] JAMES KIRCHMEYER & PETER STAAS, AVMS 201: A PRACTICAL GUIDE TO THE IMPLEMENTATION OF AUTOMATED VALUATION MODELS (2008) at 24–25.

knowledgeable appraiser, as an appropriate tool for performing appraisals.[16] AVMs can be designed or tailored to accommodate different property types (e.g., single-family residences, condominiums, townhouses, and commercial properties), at different locations (e.g., regions of the country, regions within a state, and even individual neighborhoods), and at different points in time (e.g., present or retrospective).

33. Lenders and appraisers alike utilize AVMs to value subject properties.[17] AVMs are addressed in USPAP through the Competency Rule, which applies to all appraisals under USPAP generally,[18] as well as Advisory Opinion 18 and Standards 5 and 6.

34. USPAP Standards 5 and 6 address mass appraisals, which include hedonic AVMs. Conceptually, hedonic price modeling in an AVM is a more statistically rigorous extension of the sales comparison method embodied in a mass appraisal, and it has a long history of use in the appraisal profession.[19] Standard 5 requires that "in developing a mass appraisal, an appraiser must be aware of, understand, and correctly employ those recognized methods and techniques necessary to produce and communicate credible mass appraisals."[20]

35. USPAP Advisory Opinion 18 directly addresses the type of AVM I used in this engagement. USPAP recognizes that appraisers may appropriately utilize AVMs not only for appraisals, but also for appraisal reviews.[21] When using an AVM as an appraisal tool, appraisers must understand how the AVM works, be able to use the AVM properly, determine that use of the AVM is appropriate for the intended use of the assignment results, and believe that the AVM output is credible and sufficiently reliable for the appraisal assignment.[22]

36. Consistent with other parts of USPAP, Advisory Opinion 18 requires that appraisers utilize AVMs in accordance with their professional judgment and expertise. Advisory Opinion 18 cautions that while an appraiser can use an AVM as a tool in the development of an appraisal, appraisal review, or appraisal consulting assignment, the appropriate use of an AVM

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[16] USPAP, (2018-2019) at p. 101 (Advisory Opinion 18).
[17] International Association of Assessing Officers, Standard on Automated Valuation Models (AVMs) (2003).
[18] The Competency Rule requires appraisers to possess the knowledge and experience necessary to complete an assignment competently. USPAP, (2018-2019), at 11-13, Standards Rule 1-1.
[19] Norm G Miller & Sergey Markosyan, *The Academic Roots and Evolution of Real Estate Appraisal*, 71 THE APPRAISAL JOURNAL 172–184 (2003) at 181.
[20] USPAP, (2018-2019), at 34 (Advisory Opinion 18).
[21] *Id.* at 101.
[22] *Id.* at 102.

is, like any tool, dependent upon the skill of the user and the tool's suitability to the task at hand.[23] However, when properly deployed by an appraiser, an AVM can be used as a tool to assist to reliably and credibly estimate market value of real property.[24]

37. Error statistics speak to the ability of the mass appraisal model to fit relationships between price and property characteristics (independent variables) of known property sales. To determine the accuracy of the models, I typically use a technique known as cross-validation, also known as a hold-out analysis. Cross-validation required the removal of a random set of sales from the dataset to be set aside as a test (or hold-out) group. I then recalibrated each model with the remaining sales and used those coefficients to predict the sales values of the test groups. I compared these predictions to the known sales prices of the test groups to determine the level of predictive error in each model. Since any random draw may be biased, this cross-validation procedure was computed many times, and the average of the average errors is taken to be the predictive accuracy of the mass appraisal models.[25]

38. In prior cases, I have conducted 1,000 iterations of a cross-validation model for my AVM value of the plaintiff property. In each iteration, I used 10% of the sales as the test or hold-out and 90% as the calibration set. Using this method, I have been able to report the Median Sales Error by using K-fold and the Median Absolute Sales Error using K-fold. I have consistently found, in prior cases, that the level of model accuracy in terms of Median Absolute Sales Error falls within industry standards for excellent AVM performance.[26]

CONCLUSIONS

39. In my experience, circumstances like those in *Hernandez v. Wells Fargo* are appropriately addressed using the approaches discussed in this declaration. The analytical task will be more challenging and require considerably more time and effort, as well as greater

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[23] *Id.* at 101.
[24] Thomas Jackson, *Evaluating Environmental Stigma with Multiple Regressions Analysis*, THE APPRAISAL JOURNAL364 (2005).
[25] For more about cross-validation, see JAMES ET AL., AN INTRODUCTION TO STATISTICAL LEARNING Section 5.1 (2013).
[26] JAMES KIRCHMEYER & PETER STAAS, AVMS 201: A PRACTICAL GUIDE TO THE IMPLEMENTATION OF AUTOMATED VALUATION MODELS (2008)

burden on the Court, if not performed using mass analysis techniques including a mass appraisal (AVM) and consistent economic analysis methods.

40. The following is a summary of my opinions:

- Based upon information available to me, the impacts to properties within the proposed class are likely to be systematic and modelable. While valuations (loss of equity) will vary from property to property, this will be the function of different dates of foreclosure and location-specific value trends, all of which will be accounted for in the model itself.
- My expertise and experience in valuation has shown that mass treatment of the issue using mass appraisal methods by applying an AVM is a reliable and valid method for determining the unimpaired values of class properties.
- USPAP, the governing paradigm of the appraisal profession, recognizes mass appraisal by means of automated valuation as an accepted method for valuing a large collection of properties. In that same regard, USPAP Standards Rule 6-7 requires an appraiser to evaluate the performance of their mass appraisal methods, to ensure that his or her model meets attainable standards of accuracy. The peer-reviewed appraisal literature overwhelmingly supports the use of multiple regression analysis (in this case taking the form of an AVM) as a method for valuing large collections of properties.
- I have made a detailed examination of the iLeads data, and have determined that the necessary data exists in good quality and quantity to show sufficient statistical performance across the United States. Data for this matter has already been obtained through the data aggregator, iLeads. We have used iLeads data on numerous previous occasions, and it has been found consistently acceptable for accurate valuations.
- In sum, given the facts of the case, the proposed composition of the class plaintiffs, the availability of data, and the professional standards and wealth of academic studies that support the mass appraisal of the properties in this situation, it is my opinion, to a reasonable degree of scientific certainty based on the above factors as well as my expertise and experience, that the approaches discussed in this declaration can and should be used for valuation purposes in this case.

- I reserve the right to update and alter my opinions in this matter based on the availability of any new or unknown information.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct. Executed on August 28, 2019

Dr. John A. Kilpatrick, Ph.D., MAI, FRICS